

A GUIDE TO PHASE 1 HWC MACT COMPLIANCE - MAY 22, 2002

Revised Emission Standards (according to the Interim Standards Final Rule)

Standards for Existing and New Incinerators

Hazardous Air Pollutant or Hazardous Air Pollutant Surrogate	Emissions Standard ¹			
	Existing Sources		New Sources	
	1999 Standards	Interim Standards	1999 Standards	Interim Standards
Dioxin/Furan	0.20 ng TEQ ² /dscm; or 0.40 ng TEQ/dscm and temperature at inlet to the initial dry particulate matter control device less than or equal to 400 degrees	Unchanged from 1999 standard	0.20 ng TEQ/dscm	Unchanged from 1999 standard
Mercury	130 ug/dscm	Unchanged from 1999 standard	45 ug/dscm	Unchanged from 1999 standard
Particulate Matter	34 mg/dscm (0.015gr/dscf)	Unchanged from 1999 standard	34 mg/dscm (0.015gr/dscf)	Unchanged from 1999 standard
Semi Volatile Metals	240 ug/dscm	Unchanged from 1999 standard	24 ug/dscm	120 ug/dscm
Low Volatile Metals	97 ug/dscm	Unchanged from 1999 standard	97 ug/dscm	Unchanged from 1999 standard
Hydrochloric Acid/ Chlorine Gas	77 ppmv	Unchanged from 1999 standard	21 ppmv	Unchanged from 1999 standard

1999 Standards: refers to the original (now vacated) final standards promulgated on September 30, 1999 (64 FR 52828).

Interim Standards: refers to the current enforceable final standards promulgated on February 13, 2002 (67 FR 6792). "Unchanged from 1999 standards" indicates that the 1999 standard was re-promulgated as the Interim standard.

¹ All emission levels are corrected to 7 percent oxygen

² Toxicity equivalent quotient, the international method of relating the toxicity of various dioxin/furan congeners to the toxicity of 2,3,7,8-TCDD

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Hydrocarbons ^{3,4}	10 ppmv (or 100 ppmv carbon monoxide)	Unchanged from 1999 standard	10 ppmv (or 100 ppmv carbon monoxide)	Unchanged from 1999 standard
Destruction and Removal Efficiency	For existing and new sources, 99.99% for each principal organic hazardous constituent (POHC) designated. For sources burning hazardous wastes F020, F021, F022, F023, F026, or F027, 99.9999% for each POHC designated. Unchanged from Interim Standard.			

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³ Hourly rolling average. Hydrocarbons reported as propane.

⁴ Incinerators that elect to continuously comply with the carbon monoxide standard must demonstrate compliance with the hydrocarbon standard of 10 ppmv during the comprehensive performance test

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Standards for Existing and New Cement Kilns

Hazardous Air Pollutant or Hazardous Air Pollutant Surrogate	Emissions Standard ¹			
	Existing Sources		New Sources	
	1999 Standards	Interim Standards	1999 Standards	Interim Standards
Dioxin/Furan	0.20 ng TEQ/dscm; or 0.40 ng TEQ/dscm and control of flue gas temperature not to exceed 400°F at the inlet to the particulate matter control device	Unchanged from 1999 standard	0.20 ng TEQ/dscm; or 0.40 ng TEQ/dscm and control of flue gas temperature not to exceed 400°F at the inlet to the particulate matter control device	Unchanged from 1999 standard
Mercury	120 ug/dscm	Unchanged from 1999 standard	56 ug/dscm	120 ug/dscm
Particulate Matter ²	0.15 kg/Mg dry feed and 20% opacity	Unchanged from 1999 standard	0.15 kg/Mg dry feed and 20% opacity	Unchanged from 1999 standard
Semi Volatile Metals	240 ug/dscm	330 ug/dscm	180 ug/dscm	Unchanged from 1999 standard
Low Volatile Metals	56 ug/dscm	Unchanged from 1999 standard	54 ug/dscm	Unchanged from 1999 standard
Hydrochloric Acid/Chlorine Gas	130 ppmv	Unchanged from 1999 standard	86 ppmv	Unchanged from 1999 standard

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Interim Standards: refers to the current enforceable final standards promulgated on February 13, 2002 (67 FR 6792). “Unchanged from 1999 standards” indicates that the 1999 standard was re-promulgated as the Interim standard.

¹ All emission levels are corrected to 7% O₂, dry basis

² If there is an alkali by-pass stack associated with the kiln or in-line kiln raw mill, the combined particulate matter emissions from the kiln or in-line kiln raw mill and the alkali by-pass must be less than the particulate matter emissions standard.

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Hydrocarbons: Kilns without By-pass ^{3,6}	20 ppmv (or 100 ppmv carbon monoxide) ³	Unchanged from 1999 standard	Greenfield kilns: 20 ppmv (or 100 ppmv carbon monoxide and 50 ppmv ⁴ hydrocarbons) All others: 20 ppmv (or 100 ppmv carbon monoxide) ³	Unchanged from 1999 standard
Hydrocarbons: Kilns with By-pass; Main Stack ^{5,6}	No main stack standard	Unchanged from 1999 standard	50 ppmv ⁴	Unchanged from 1999 standard
Hydrocarbons: Kilns with By-pass; By-pass Duck and Stack ^{3,5,6}	10 ppmv (or 100 ppmv carbon monoxide)	Unchanged from 1999 standard	10 ppmv (or 100 ppmv carbon monoxide)	Unchanged from 1999 standard
Destruction and Removal Efficiency	For existing and new sources, 99.99% for each principal organic hazardous constituent (POHC) designated. For sources burning hazardous wastes F020, F021, F022, F023, F026, or F027, 99.9999% for each POHC designated. Unchanged from Interim Standard.			

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³ Cement Kilns that elect to comply with the carbon monoxide standard must demonstrate compliance with the hydrocarbon standard during the comprehensive performance test.

⁴ Applicable only to newly-constructed cement kilns at greenfield sites (see discussion in Part Four, Section VII.D.9). 50 ppmv standard is a 30-day block average limit. Hydrocarbons reported as propane.

⁵ Measurement made in the by-pass sampling system of any kiln (e.g., alkali by-pass of a preheater and/or precalciner kiln; midkiln sampling system of a long kiln).

⁶ Hourly rolling average. Hydrocarbons are reported as propane.

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Standards for Existing and New Lightweight Aggregate Kilns

Hazardous Air Pollutant or Hazardous Air Pollutant Surrogate	Emissions Standard ¹			
	Existing Sources		New Sources	
	1999 Standards	Interim Standards	1999 Standards	Interim Standards
Dioxin/Furan	0.20 ng TEQ/dscm; or 0.40 ng TEQ/dscm and rapid quench of the flue gas at the exit of the kiln to less than 400 degrees	0.20 ng TEQ/dscm or rapid quench of combustion gas at exit from last CC to less than 400 degrees	0.20 ng TEQ/dscm; or 0.40 ng TEQ/dscm and rapid quench of the flue gas at the exit of the kiln to less than 400 degrees	0.20 ng TEQ/dscm or rapid quench of combustion gas at exit from last CC to less than 400 degrees
Mercury	47 ug/dscm	120 ug/dscm	33 ug/dscm	120 ug/dscm
Particulate Matter	57 mg/dscm (0.025gr/dscf)	Unchanged from 1999 standard	57 mg/dscm (0.025gr/dscf)	Unchanged from 1999 standard
Semi Volatile Metals ²	250 ug/dscm	Unchanged from 1999 standard	43 ug/dscm	Unchanged from 1999 standard
Low Volatile Metals ³	110 ug/dscm	Unchanged from 1999 standard	110 ug/dscm	Unchanged from 1999 standard
Hydrochloric Acid/Chlorine Gas	230 ppmv	600 ppmv	41 ppmv	600 ppmv

1999 Standards: refers to the original (now vacated) final standards promulgated on September 30, 1999 (64 FR 52828).

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¹ All emission levels are corrected to 7% O₂, dry basis.

² Hourly rolling average. Hydrocarbons reported as propane.

³ Lightweight aggregate kilns that elect to continuously comply with the carbon monoxide standard must demonstrate compliance with the hydrocarbon standard of 20 ppmv during the comprehensive performance test.

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Hydrocarbons ^{2,3}	20 ppmv (or 100 ppmv carbon monoxide)	Unchanged from 1999 standard	20 ppmv (or 100 ppmv carbon monoxide)	Unchanged from 1999 standard
Destruction and Removal Efficiency	For existing and new sources, 99.99% for each principal organic hazardous constituent (POHC) designated. For sources burning hazardous wastes F020, F021, F022, F023, F026, or F027, 99.9999% for each POHC designated. Unchanged from Interim Standard.			

1999 Standards: refers to the original (now vacated) final standards promulgated on September 30, 1999 (64 FR 52828).

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² Hourly rolling average. Hydrocarbons reported as propane.

³ Lightweight aggregate kilns that elect to continuously comply with the carbon monoxide standard must demonstrate compliance with the hydrocarbon standard of 20 ppmv during the comprehensive performance test.